

What is claimed:

1. Skin temperature measuring apparatus comprising:

a housing;

first and second [identical thermistors] temperature sensors spaced apart in said housing but in proximity to each other and adapted for contact with generally the same area of skin for developing first and second temperature signals, respectively; and

means responsive to said first temperature signal and said second temperature signal for:

(a) developing an indication of the temperature at the skin with which said first [thermistor] and said second temperature sensors [thermistor] are in contact. and

(b) detecting a difference between the rate of change of said first temperature signal and the rate of change of said second temperature signal which exceeds a predetermined threshold representing a difference in the proximity of said first [thermistor] temperature sensor to the skin and the proximity of said second [thermistor] temperature sensor to the skin.

2. Skin temperature measuring apparatus according to claim 1 further including means responsive to said first temperature signal and second temperature signal for detecting a difference between said first temperature signal and said second temperature signal which exceeds a predetermined threshold representing a failure of one of said first [thermistor] and said second [thermistor] temperature sensors.

3. Skin temperature measuring apparatus according to claim 1 further including a flexible substrate on which said first [thermistor] and said second [thermistor] temperature sensors are mounted.

4. Skin temperature measuring apparatus according to claim 3 wherein said substrate has:

(a) first and second lands on which said first [thermistor] and said second [thermistor] temperature sensors, respectively, are mounted, and

(b) a neck extending between said first land and said second land and having a width narrower than the width of said first land and said second land.

5. Body function measuring apparatus comprising:  
a housing;

first and second [identical] sensors spaced apart in said housing but in proximity to each other and adapted for contact with generally the same area of skin for developing first and second body function signals, respectively; and

means responsive to said first body function signal and said second body function signal for:  
(a) developing an indication of the body function at the skin with which said first sensor and said second sensor are in contact, and  
(b) detecting a difference between the rate of change of said first body function signal and the rate of change of said second body function signal which exceeds a predetermined threshold representing a difference in the proximity of said first sensor to the skin and the proximity of said second sensor to the skin.

6. Body function measuring apparatus according to claim 5 further including means responsive to said first body function signal and said second body function signal for detecting a difference between said first body function signal and said second body function signal which exceeds a predetermined threshold representing a failure of one of said first sensor and said second sensor.

7. Body function measuring apparatus according to claim 5 further including a flexible substrate on which said first sensor and said second sensor are mounted.

8. Body function measuring apparatus according to claim 7 wherein said substrate has:

- (a) first and second lands on which said first sensor and said second sensor, respectively, are mounted, and
- (b) a neck extending between said first land and said second land and having a width narrower than the width of said first land and said second land.

9. A skin temperature measuring apparatus comprising:

a housing;

at least a first and second temperature sensor spaced apart in said housing, but in proximity to each other and adapted for contact with generally the same area of skin for developing first and second temperature signals, respectively;

a first indicator connected to one of said at least first and second temperature sensors to indicate the temperature of the skin, and

a second indicator connected to at least both of said at least first and second temperature sensors to produce an output indicating an improper sensing of the skin temperature at that same area by at least one of the at least first and second temperature sensors.

10. The skin temperature apparatus of claim 9, wherein the housing is provided with a flexible substrate on which the at least first and second temperature sensors are mounted.

11. The skin temperature measuring apparatus of claim 9, wherein the second indicator produces an output when the temperatures sensed by the at least first and second temperature sensors differ by a threshold amount.

12. The skin temperature apparatus of claim 11, wherein the housing is provided with a flexible substrate on which the at least first and second temperature sensors are mounted.

13. The skin temperature measuring apparatus of claim 11 having a third indicator connected to said at least first and second temperature sensors which produces an output indicating an improper sensing of the skin temperature when the rate of change of the temperature sensors differ by a second threshold amount.

14. The skin temperature apparatus of claim 13, wherein the housing is provided with a flexible substrate on which the at least first and second temperature sensors are mounted.

15. The skin temperature measuring apparatus of claim 9, wherein the second indicator produces an output when the rate of change of temperatures sensed by the at least first and second temperature sensors differ by a threshold amount.

16. The skin temperature apparatus of claim 14, wherein the housing is provided with a flexible substrate on which the at least first and second temperature sensors are mounted.

17. A method of producing a skin temperature comprising:  
placing a housing mounted with at least two spaced apart temperature sensors adjacent the same area of skin;

providing a first indicator connected to and displaying the temperature of at least one of the at least two sensors; and

providing a second indicator connected to both the at least first and second temperature sensor and producing an indication that the displayed temperature from the first indicator is in error.

18. The method of claim 17, wherein the second indicator indicates that one of the at least first and second temperature sensors is malfunctioning.

19. The method of claim 18, wherein a third indicator is provided that is connected to both the at least first and second temperature sensors and producing an indication that the at least first and second temperature sensors are not measuring the temperature of the skin at the same area.

20. The method of claim 17, wherein the second indicator indicates that the at least first and second temperature sensors are not measuring the temperature at the same skin area.

21. A body function measuring apparatus comprising  
a first sensor positioned to detect the body function and to provide a first signal in response to the body function.

a second sensor positioned to detect the body function and to provide a second signal in response to the body function,

an indicator, and

a circuit operatively coupled to the indicator, the first sensor, and the second sensor, the circuit being configured to activate the indicator in response to the rate of change of the first signal and the rate of change of the second signal.

22. The body function measuring apparatus of claim 21, wherein the circuit detects a difference between the rate of change of the first temperature signal and the rate of change of the second temperature signal.

23. The body function measuring apparatus of claim 22, wherein the circuit activates the indicator when the difference between the rate of change of the first temperature signal and the rate of change of the second temperature signal exceed a predetermined threshold.

24. The body function measuring apparatus of claim 21, further comprising a second indicator operatively coupled to the circuit.

25. The body function measuring apparatus of claim 24, wherein the circuit is configured to activate the second indicator when the difference between the first signal and the second signal exceeds a predetermined threshold.

26. The body function measuring apparatus of claim 24, wherein the second indicator is configured to display the status of the body function.

27. The body function measuring apparatus of claim 26, further comprising a third indicator operatively coupled to the circuit.

28. The body function measuring apparatus of claim 27, wherein the circuit is configured to activate the third indicator when the difference between the first signal and the second signal exceeds a predetermined threshold.

29. A body function measuring apparatus comprising  
a first sensor providing a first signal,  
a second sensor spaced apart from the first sensor, the second sensor being positioned to lie proximate the first sensor, the second sensor providing a second signal,  
a circuit coupled to the first and second sensors, the circuit comparing the rate of change of the first signal to the rate of change of the second signal, and  
an indicator operatively coupled to the circuit to indicate whether the difference between the rate of change of the first signal and the rate of change of the second signal exceeds a threshold.

30. The body function measuring apparatus of claim 29, further comprising a housing, the first sensor being received by the housing and the second sensor being received by the housing.

31. The body function measuring apparatus of claim 30, wherein the housing is formed to include a first land and a second land, the first sensor being carried by the first land and the second sensor being carried by the second land.

32. The body function measuring apparatus of claim 31, wherein the housing is flexible.

33. The body function measuring apparatus of claim 31, wherein the housing is formed to include a neck connecting the first land to the second land.

34. The body function measuring apparatus of claim 33, wherein the neck is flexible so that the first land can move relative to the second land.